RAIN SENSOR

Rain Sensor Guide

A rain sensor, also called a rain shut-off device or a rain switch, is a small device that turns off an automatic lawn irrigation system when it rains. Mounted in an open outdoor area and wired or wirelessly-connected to your automatic lawn irrigation system, a rain sensor can significantly reduce your water bill while conserving municipal drinking water.

For this rebate, we require that your rain sensor halt irrigation after a 1/4 inch of rain. Some rain sensors have a function to turn off within the first few minutes of rainfall. The total amount of rain will determine how long your system will stay off. The rain sensor may shut your system off for one to several days after a rainfall, depending on a number of factors such as the amount of rain and the sensor's exposure to wind and sun.

Disks, Dishes, and Buckets, Oh My!

Most rain sensors employ water-absorbing expansion disks that swell in the presence of rain – similar to a sponge – and after a certain amount of rainfall, depress an electrical switch, thereby bypassing the regular cycle of irrigation and turning off your automatic irrigation system. The disks shrink as they dry, until they release from the electrical switch, restoring the normal cycle of your irrigation system. Rain sensors with expansion disks are the most popular type because they are highly reliable and require little maintenance.

Other rain sensors on the market that will qualify for this rebate use a water collection dish, tipping bucket, or conductance probe to detect rainfall via water weight or electrical conductivity. Rain sensors measuring water weight or conductivity may require more maintenance to remove dirt and debris, which can alter weight or conductance and foul the device.

What are Some Benefits of Having a Rain Sensor?

Saving You Money

By shutting off your irrigation, a rain sensor can reduce your monthly water and electricity bills.

For example, if your system irrigates half an acre and is set to apply half an inch of water per cycle, 6,788 gallons are applied per cycle. Assuming your household is in the third Block within James City Service Authority's Residential Water Retail Service Rates, your savings will be about $60 every time the sensor eliminates an irrigation event. Rain sensors typically cost $25 to $50 with $100 for installation, so after our $50 rebate and the elimination of two irrigation events, your rain sensor has more than paid for itself!

Conserving Municipal Water

By preventing unnecessary irrigation after rain events, rain

Other Irrigation Sensors on the Market

- ET-based controllers calculate evapo-transpiration (ET) in real-time based on satellite data from local weather stations and on-site weather readings. They allow for home-owners to specify in-puts by zone, such as sprinkler type (spray, drip, bubbler, etc.), plant type, and soil type. ET-based con-trollers are a great, hassle-free option to achieve the ideal level of irrigation.
- Moisture sensors use a probe in the soil to monitor soil water content. They work well in moderate loamy soils but tend to be inaccurate in the clay soils of James City County.
- Freeze sensors turn off sprinkler valves when the tempera-ture drops below a preset level. They tend to not be cost effective in our region because most homeowners' automatic irrigation systems are shut off by their irrigation spe-cialist before freezing would occur.
- Wind sensors turn off valves in response to high wind speeds.

sensors help ensure water availability for emergencies, such as firefighting, especially during the peak summer months.

Prolonging the Life of Your Irrigation System

A rain sensor can reduce wear to your system because it runs only when necessary.

Reducing Nutrient Loss and Disease Damage

Over-watering causes nutrients to wash away from turf, requiring increased applications of fertilizer. It also retards deep root growth and increases lawn susceptibility to disease. In fact, over-watering has been called the most common cause of disease in turf.

Protecting Our Waterways and Groundwater

By minimizing wasteful runoff, you reduce the amount of pollution and debris such as pet waste, motor oil, fertilizer, pesticides, litter, and sediment that reach our waterways. Using a rain sensor also reduces percolation of irrigation water that carries pollutants from lawn and garden care, such as fertilizers and herbicides, into our groundwater.

Considerations

Am I Eligible for the Rain Sensor Rebate?

To qualify for this rebate, you must be a JCSA water customer, and your rain sensor must be a retrofit to a lawn irrigation system that was installed without a rain sensor before March 8, 2005. You must also set your rain sensor so that the irrigation system will shut off after a 1/4 inch of rain or less has fallen.

James City County Ordinance Number 116A-36 requires that all irrigation systems installed in the County and supplied water by the JCSA on or after March 8, 2005 must have a rain sensor set to a 1/4 inch or less. Please visit JCSA on our website at jamescitycountyva.gov/jcsa and look for "Outdoor Water Use" and then "Amended Ordinance" for details. Irrigation systems installed before March 8, 2005 are not required by Ordinance to have rain sensors, but we encourage those homeowners to buy and install one and receive our rebate.

Will My Rain Sensor Affect the Sprinkler Schedule of My Automatic Irrigation System?

No. The rain sensor temporarily interrupts the automatic irrigation system's programmed cycle until the detection device dries. One to several days after the rainfall, the irrigation system's automatic timer will come back online and its regular schedule will resume.

Where Do I Buy a Rain Sensor? Who Can Install It?

Feel free to go to jamescitycountyva.gov/bewatersmart and look for the "Rebates" link to find a list of local retailers and irrigation specialists that provide rain sensors. Rain sensors are easy to install. Do-it-yourselfers should check local hardware and gardening stores. Otherwise, contact your local irrigation specialist.

Where Should Rain Sensors Be Placed?

They should be mounted in an open area outdoors, above ground in an unobstructed location that is well-suited for gauging rain. See the manufacturer's specifications for details.

Rain Sensor Rebate Form

Requirements

- Applicant must be a JCSA residential water customer. Account balance must be current.
- Irrigation system must have been installed without a rain sensor before March 8, 2005.
- JCSA will refund purchase price of up to one rain sensor per water customer, with a maximum of $25.
- Applicant is solely responsible for purchase and installation arrangements and payments.
- Applicant agrees to allow JCSA inspector access to the premises in order to verify installation if selected for random inspection.
- Survey and form must be completed in their entirety and copy of receipt enclosed to be eligible for rebate.
- Rebate checks will be processed within 4-8 weeks of receipt.

Survey

- Type of property: ☐ Commercial ☐ Single-family ☐ Multi-family ☐ Other:_____
- What is the main reason for installing your rain sensor?
  - ☐ To save money on water bill
  - ☐ To conserve municipal water demand
  - ☐ To prolong the life of your irrigation system
  - ☐ To reduce nutrient loss and disease damage
  - ☐ To protect our waterways and groundwater
  - ☐ Other: _____
- Do you plan on installing any other water conservation or low impact development features, such as other WaterSense or Energy Star qualified products, irrigation control technologies, green roofs, rain gardens, porous pavement, or retention ponds?
  ☐ Yes ☐ No If yes, what features? _____
- How much did this rebate influence your buying decision? ☐ Completely ☐ Somewhat ☐ Not at all
- When was the irrigation system installed: _____ When was the rain sensor installed:_____
- Rain Sensor brand and model:_____
  _____
- Irrigation professional (unless self-installed):_____
- Rain Sensor setting (amount of rain before shut-off):_____
- How often do you irrigate your landscape in the Spring/Summer? ☐ Never ☐ Daily ☐ 3 times a week ☐ Once a week ☐ Twice a month ☐ Once a month
- How often do you irrigate your landscape in the Fall/Winter? ☐ Never ☐ Daily ☐ 3 times a week ☐ Once a week ☐ Twice a month ☐ Once a month
- How did you hear about this rebate?_____

Applicant Information

Name:_____

Mailing address: _____ City:_____ State:_____ Zip:_____

Home phone number:_____ Email Address:_____

Installation address (if different):_____ City:_____ State:_____ Zip:_____

Disclaimer

I certify that the above listed rain sensor was purchased and installed for use at the above named address and meets the requirements of the James City Service Authority (JCSA) Rain Sensor Rebate Program. I understand that if I am required by my neighborhood to fulfill the actions rebated, then I am not eligible for the rebate. I also acknowledge that my home may be subject to an inspection by the JCSA or its agent to verify the information provided herein. The JCSA may deny any application that does not meet program requirements. The JCSA does not guarantee any of the benefits in the preceding guide; nor does it warranty freedom from defects, quality of workmanship, or suitability of the premises for the landscape and irrigation system installation. The applicant will hold harmless James City County, JCSA, its agents, directors, officers, and employees against all loss, damage, expense and liability arising out of or in any way connected to installation of rain sensor or associated products. The JCSA reserves the right to change or terminate this program at any time.

Please remit completed rebate form and copy of receipt to:
Rain Sensor Rebate Program
c/o JCSA
119 Tewning Road
Williamsburg, VA 23188-2639
Fax: 757-229-2463

Signature: _____ Date: _____

FOR JCSA USE ONLY

Date Received: _____ ☐Approved ☐Denied. Reason denied: _____

Date Approved: _____ Rebate Amount: _____

Signature: _____

For more information on this and other water conservation rebates, call 757-259-5416,
Email jcsa@jamescitycountyva.gov or go to our website at jamescitycountyva.gov/jcsa